Zoom ADSL X6v

ADSL 2/2+ Modem/
Wireless Router/
Firewall/4-port Switch
plus VoIP Adapter

Model 5695

Complete networking solution for ADSL users includes a Voice over IP telephone adapter.

Integrated device with built-in firewall simplifies setup and provides easy-to-use Quality of Service for VoIP, gaming systems, video conferencing, and other applications.

Easy setup with Zoom's Installation Wizard includes auto configuration of ADSL settings.

Two high-performance antennas for superior wireless range.

Zoom's TelePort feature allows normal phones to place and receive calls over the Internet and also connect to any phone on the Public Switched Telephone Network.

VoIP-to-PSTN and PSTN-to-VoIP call bridging and robust emergency dialing when connected to a conventional phone line.

Supports automatic provisioning by VoIP service providers.

The Zoom X6v integrates a full-rate ADSL 2/2+ modem, router, 802.11 wireless access point, VoIP telephone adapter, firewall, and four-port 10/100 Ethernet switch into a single cost-effective product. The integration of networking devices, along with Zoom's FastLane Quality of Service and Installation Wizard simplify setup, maximize dependability, and provide superior voice quality for voice communications over the Internet.

The X6v provides both an FXO and an FXS phone port and allow calls to be bridged between the Public Switched Telephone Network (PSTN) and Voice over IP. The FXO port includes the TelePort, an intelligent relay that allows a single phone to place and receive both VoIP calls and calls over the PSTN. The TelePort feature also provides reliable emergency calling and calling during power failures. VoIP service providers using TelePort can comply with emergency-dialing regulations without using a third-party service and payment of monthly fees.

The X6v makes it easy to provide multiple levels of guaranteed upstream bandwidth for prioritized devices. One or more ports on the X6v, including the LAN ports, the wireless interface or the integrated VoIP adapter, may be designated as the source for prioritized traffic. A gaming adapter or another Ethernet connected device plugged into those ports is provided with the guaranteed upstream bandwidth selected by the user. Per-port PVC (Private Virtual Channel) is supported with multiple channels and downstream ATM QoS to allow delivery of multimedia services by Internet Service Providers.

The VoIP telephone adapter can be configured remotely using a HTTP download from the service provider and updates to the Analog Telephone Adapter firmware can be automatically delivered.

Local configuration of the X6v is done with with a browser-based graphical user interface. An Installation Wizard and auto configuration make setup of the ADSL network settings easy. Universal Plug and Play (UPnP) provides easy Local Area Networking configuration and operation under Windows.

The X6v is backed by a two year warranty from Zoom and over 30 years of experience in the design and support of communications products.

Specifications

ADSL Compliance

- Compliant with ADSL standards:
  - Full-rate ANSI T1.413 Issue 2, ITU G.dmt (G.992.1) standards

  Compliant with ADSL 2 standards:
  - G.dmt.bis (ITU G.992.3)

  Compliant with ADSL 2+ standards:
  - G.992.5
  - ADSL2 Annex L (Reach extended ADSL)
- DMT modulation and demodulation
- Full-rate adaptive modem
  - Maximum downstream rate of 8 Mbps (ADSL), or 24 Mbps (ADSL 2+)
  - Maximum upstream rate of 896 Kbps (ADSL), or 1024 Kbps (ADSL 2+)
- Interoperable with all major DSLAM manufacturers

ATM Protocols

- WAN mode support: PPP over ATM (RFC 2364) and PPP over Ethernet (RFC 2516)
- LAN mode support: Bridged/Routed IP over ATM (RFC 1483) and Classical IP over ATM (RFC 1577)
- ATM Forum UNI 3.1/4.0 PVC
- Up to eight virtual circuits
- ATM segmentation and re-assembly
- ATM AAL5 (adaption layer type 5)
- OAM F4/F5

Bridge Mode

- Ethernet to ADSL self learning - Transparent Bridging (IEEE 802.1D)
- Supports up to 128 MAC learning addresses
- RFC2684/1483 bridged PDU encapsulation

Specifications (continued)

Security (router)
- Stateful Packet Inspection (SPI)
- User authentication for PPP
- PAP (Password Authentication Protocol)
- CHAP (Challenge Authentication Protocol)
- Password protected system management
- VPN passthrough: PPTP, L2TP, IPsec tunnel
- Advanced Firewall Ports Filtering
- Black Lists
- Attack Protection
- Denial of Service Protection
- Port Scan Detection and Prevention
- MAC Filtering for both Wired and Wireless Connections

Ethernet Interface Management
- IEEE 802.3 compliant
- Four 10/100 Mbps auto-sensing RJ-45 ports
- Two antennas, one internal and one swivel external
- Password protected access
- Auto configuration
- Universal Plug and Play (UPnP)
- SNMP Version 1 and 2
- Remote and local command line or HTTP interface configuration
- Software upgradeable firmware and device configuration through HTTP interface
- Loads setup from a file for easy input of a configuration by a service provider
- ATM traffic management functions support UBR, CBR, rt-VBR, nrt-VBR in accordance with ATM forum TM 4.1

Wireless Interface
- Two antennas, one internal, and one swivel external

Status Indicators
- Nine front panel indicators: Wired LAN connection, Wireless connection, ADSL link, Internet activity, Power, Ready, Telco, Phone, Message
- Eight rear panel indicators report port speed, activity, and link for each Ethernet port

Analog Telephone Ports
- One FXS type Loop-start interface with RJ-11
- One FXO analog interface with Teleport and RJ-11
- REN (Ringer Equivalence Number):5, will ring up to 5 typical telephones

  and often more
- Programmable Ring Patterns
- Call progress tones supported: Initial dial tone, Secondary dial tone, Stuttered dial tone, Message waiting dial tone, Call forward dial tone, Pre-ringback dial tone, Ring back tone, Call waiting tone, Call holding tone, Call disconnect tone, Call conference tone, Busy tone, Reorder tone (network busy/fast busy), Off hook warning.
- Power Fail Over
- Auto switch to PSTN for emergency calling using 911 and other programmed three digit codes
- VoIP to PSTN call bridging, PSTN to VoIP call bridging with ANI security

Voice over IP (VoIP)
- SIPv2 - Session Initiation Protocol (RFC 3261, 3262, 3263, 3264)
- SDP - Session Description Protocol (RFC 4566)
- RTP - Real Time Protocol (RFC 1889, 1890)
- RTCP - Real-Time Control Protocol (RFC 1889)
- X-NSE - Tone Events for SIP/RTP (RFC 2833)
- AVT - Tone Events for SIP/RTP (RFC 2833)
- Power-on Auto Registration
- Re-registration with SIP Proxy Server
- SIP over UDP

Network Protocols
- IPv4 - Internet Protocol Version 4 (RFC 791)
- TCP - Transmission Control Protocol (RFC 793)
- UDP - User Datagram Protocol (RC 768)
- CMP - Internet Control Message Protocol. (RFC 792)
- RARP - Reverse Address Resolution Protocol (RFC 903)
- ARP - Address Resolution Protocol (RFC 826)
- DNS - Domain Name Server
- DHCP Client - Dynamic Host Control Protocol (RFC 2131)
- NTP - Network Time Protocol (RFC 1305)
- SNTP - Simple Network Time Protocol (RFC 2030)
- STUN - Simple Traversal of UDP over NATs (RFC 3789)
- HTTP - HyperText Transfer Protocol

Voice Codecs
- G.711 - Pulse Code Modulation
- iLBC (Internet Low Bitrate Codec)
- G.729 (optional)

Telephony
- Q.24 DTMF generation and detection
- Configurable tone frequency and on/off cadence generation
- Caller ID Generation and Detection (Type I and II)
- 3-way conference calling with local mixing
- Message waiting indicator light
- G.711 Fax Pass-through
- CLASS feature support
- G.165, G.168 compliant line echo cancellation
- Nonlinear echo cancellation
- Double talk detection

Quality of Service Support
- Layer 2 Class-of-Service (CoS) Tagging (802.1P)
- Layer 2 (802.1Q VLAN)
- Layer 3 Type-of -Service (ToS) Tagging (RFC 791/ 1349/2474)
- Layer 3 DIFFServ (RFC 2475)i 0fo

Security (VoIP adapter)
- Provisioning/Configuration/Authentication
- Password-protected, Web based administration
- ARC4 Encryption for TFTP Configuration Profiles
- Authentication (Digest using MD5)

Warranty
- Two years limited warranty

Size
- 7.5 x 6.75 x1.25 inches, 19 x 17 x 3.2cm

Regulatory Approvals
- CE, UL, C-UL, FCC Part 15B,115C, FCC Part 68, Industry Canada, RoHS compliant

RoHS 2002 / 95 / EC

* The 802.11g Wi-Fi standard transmits at a maximum of 54 Mbps. Higher effective speeds can be achieved by using compression algorithms and techniques like packet aggregation and frame bursting. The maximum speed obtained by the Model 5695CF depends on the type of data being sent and the actual data rate of an 802.11 connection.

System Requirements

A computer with an Ethernet port, or 802.11 b/g, wireless capability and any operating system that supports TCP/IP (Windows, Mac, Linux or other)

Package Contents
- ADSL modem with wireless-G router and VoIP Adapter
- Ethernet cable
- Phone cable
- CD ROM
- User manual
- Power Adapter

- Filters and phone adapters:

  Filters and/or phone adapters may be included in some markets. Please check the package for specifics or ask your dealer. An ADSL filter allows a telephone, facsimile machine, or other telephone instrument to be used even when you are online with your ADSL modem.

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